UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
NGUYEN, PHU K

ART UNIT	PAPER NUMBER
2671	9

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/928,165	CAVALLARO ET AL.
	Examiner	**Art Unit**	
	Phu K. Nguyen	2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 December 2003</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-58* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
            application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 4-10, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated

by Heidmann et al. (6,057,833).

As per claim 1, Heidmann teaches the claimed "method for enhancing video,

comprising the steps of "identifying one or more positions in a first image" (Heidmann,

column 12, lines 38-42); "converting said one or more positions to one or more locations

in relation to a virtual surface, converting said one or more locations in relation to said

virtual surface to one or more positions in a second image" (Heidmann, column 12, lines

43-67); and "enhancing said second image based on said one or more positions in said

second image" (Heidmann, column 14, lines 2-16).

Claim 4 adds into claim 1 "using a pointing device to select one or more pixels on a monitor" which Heidman teaches in column 4, lines 47-48.

Claim 5 adds into claim 1 "using a pointing device to select one or more pixels on a monitor and using said selected pixels to determine said one or more positions in a first image" which Heidmann teaches in column 4, lines 61-64, column 6, lines 23-28.

Claim 6 adds into claim 1 "selecting a region of said first image" which Heidmann teaches in column 6, lines 19-22.

Claim 7 adds into claim 1 "said one or more locations are three dimensional locations on said virtual surface" which Heidmann teaches in column 12, lines 49-50.

Claim 8 adds into claim 1 "said one or more locations are all on said virtual surface" which Heidmann teaches in column 12, lines 49-50.

Claim 9 adds into claim 1 "said second image depicts an environment; said second image is captured by a camera; and said step of converting said one or more locations is performed without surveying a position of said camera in relation to said environment" which Heidmann teaches in figures 10A-10B.

Claim 10 adds into claim 1 "said second image depicts an environment having an actual surface; said one or more positions in said second image are on an image of said

actual surface in said second image; and said step of converting said one or more

locations are performed without knowing distance between said first actual surface and

a camera capturing said second image" which Heidmann teaches in col. 4, lines 4-8.

Claim 17 adds into claim 1 "the steps of converting said one or more locations in

relation to said virtual surface to one or more positions in a third image; and enhancing

said third image based on said one or more positions in said third image" which

Heidmann teaches in column 9, lines 31-51.

Applicant's arguments filed December 22, 2003 have been fully considered but

they are not deemed to be persuasive. Applicant argues that Heidmann does not teach

"conversion of positions identified in a first image to locations in relation to a virtual

surface" which is not correct. Heidmann teaches "graphical elements may be drawn

into a virtual surface which can be moved or animated in 2D or 3D, that is either scaled

or slid around on the screen, or tumbled, viewed in perspective, warped, etc." (column

13, lines 7-10) and the positions of the graphical elements are conversed into the virtual

surface, creating the appearance of the graphical elements stick to the real scene.

Applicant also goes further to discuss the properties of the virtual surfaces whose

features do not appear on the claims. Accordingly, the claimed invention as

represented in the claims does not represent a patentable distinction over the art of

record.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 3, 11-16, 18-21, 22-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over HEIDMANN et al. (6,057,833).

Claim 2 adds into claim 1"said virtual surface is a sphere" which would have been obvious in view of Heidmann's projection surface (col. 12, lines 49-50) because such surface can be any type of surface such as a sphere.

Claim 3 adds into claim 2 "said first image and said second image are video images; said first image depicts an environment having an actual surface (Heidmann, e.g., play field); said second image depicts said actual surface (Heidmann, e.g., camera

field); said one or more positions in said first image are on an image of said actual

surface in said first image; said one or more locations are three dimensional locations

on said sphere; said one or more positions in said second image are on an image of

said actual surface in said second image (Heidmann, figures 10A-10B); said step of

enhancing includes editing said second image in relation to said one or more positions

in said second image, said step of converting said one or more locations is based on

camera sensor data; and said camera sensor data pertains to an attitude of a camera

capturing said second image" which would have been obvious to Heidmann's camera

shot on a play field (column 12, line 35 to column 13, line 33) because the 3D surface

can be any type of 3D surface such as a sphere.

Claim 11 adds into claim 1 "said step of converting said one or more locations is

based on camera sensor data; and said camera sensor data pertains to an attitude of a

camera capturing said second image" which would have been obvious to Heidmann's

camera data (column 4, lines 4-8; column 12, lines 43-57) because the camera data can

be collected through the sensors as claimed.

Claim 12 adds into claim 1 "said step of converting said one or more locations is

based on camera sensor data and stabilization offset data; said camera sensor data

pertains to an attitude of a camera capturing said second image; and said stabilization

offset data is used to correct said camera sensor data" which would have been obvious

to Heidmann's camera on the play field because the accuracy of data is necessary for a comprehensive display of the scene (Heidmann, column 4, lines 4-15 or figs 10A-10B).

Claim 13 adds into claim 12 "the steps of identifying positions of edges; transforming said positions of said edges to edge locations on said virtual surface; transforming said edge locations to edge positions in said second image using said camera sensor data; determining said stabilization -offset data based on a difference between said transformed edge positions in said second image and actual edge positions in said second image" which would have been obvious to Heidmann's camera on the play field because the accuracy of data is necessary for a comprehensive display of the scene (Heidmann, column 4, lines 4-15, column 6, line 53 to column 7, line 27).

Claim 14 adds into claim 1 "said step of enhancing includes adding an enhancement image to said second image and accounting for occlusions of said enhancement image" which would have been obvious in view of Heidmann's transparency scene (col. 6, line 64 to column 7, line 1) because the opacity and/or transparency of the display scene implies the occlusions of the inserted object.

Claim 15 adds into claim 14 "said step of accounting for occlusions of said enhancement image includes accessing a color map and editing pixels of said second image according to said color map" which Heidmann teaches in col. 5, lines 63-65 in

which the attribute data of the inserted object can be any well known type of 3D object attribute such as color, texture, depth, ...

Claim 16 adds into claim 14 that "said second image is an image of an environment having an actual surface; and said enhancement image appears to be on said actual surface" which Heidmann teaches in figures 10A-10B.

Claim 18 adds into claim 1 "said first image and said second image are video images; said first image depicts an environment having an actual surface; said second image depicts said actual surface; said step of identifying includes annotating an image of said actual surface in said first image, said one or more positions represent said annotation, said annotation is at a first orientation in relation to said actual surface; and said step of enhancing includes adding said annotation to an image of said actual surface in said second image at said first orientation in relation to said actual surface" which would have been obvious to Heidmann's inserted objects and animation (column 3 line 56 to column 4, line 14) because one of those inserted objects can be an annotation.

Claim 19 adds into claim 18 "said step of annotating an image includes receiving a set of points from a touch screen" which Heidmann teaches in column 8, lines 44-46.

Claim 20 adds into claim 1 "said step of identifying one or more positions a first image include identifying a position to add a virtual advertisement; said step of converting said one or more locations includes determining where to add said virtual advertisement into said second image; and said step of enhancing includes adding said virtual advertisement into said second image" which would have been obvious to Heidmann's inserted objects (column 4, lines 1-14) because the inserted object can be "a virtual advertisement".

Claim 21 adds into claim 1 "said step of identifying one or more positions in a first image include identifying a set of positions in an environment, said set of positions bound a virtual advertisement; said step of converting said one or more positions includes transforming said set of positions in said environment to locations on said virtual surface; said step of converting said one or more locations includes determining where said set of positions are in said second image; and said step of enhancing includes adding said virtual advertisement into said second image where said set of positions are in said second image" which would have been obvious to Heidmann's inserted objects (column 4, lines 1-14) because the inserted object can be "a virtual advertisement" which can be added to the transformed scene.

Claim 45 adds into claim 1 "a virtual advertisement" which would have been obvious because Heidmann's animated object are any type of objects inserted into the actual surface including an advertisement to enhance the screen of the video image.

Claim 46 adds into claim 1 "first image depicts an environment, and the virtual surface is of a different shape than said actual surface" which would have been obvious because Heidmann's projection of the locations of an actual surface into the virtual surface which can be any 3D surface (e.g., floating a distance above the actual surface, Heidmann, column 12, lines 43-50).

Claim 47 adds into claim 1 the positions in the first and second images are 2D positions and the locations are 3D locations in relation to the virtual surface" which Heidmann teaches in the projected 2D video images and the virtual 3D surface (Heidmann, column 12, lines 43-50).

Claim 48 adds into claim 1 "at least one of said locations are not located on said virtual surface" which would have been obvious because the 3D animated object can be projected into the virtual surface but not actually on the surface.

As per claim 22, Heidmann teaches the claimed "method for enhancing video" comprising the steps of "determining one or more locations in relation to a virtual surface" (Heidmann, column 12, lines 35-59); and "converting said one or more locations in relation to said virtual surface to one or more positions in a video image" (Heidmann, column 12, line 60 to column 13, line 25). Applicant argues that Heidmann does not teach "conversion of positions identified in a first image to locations in relation to a virtual surface" which is not correct. Heidmann teaches "graphical elements may be drawn into a virtual surface which can be moved or animated in 2D or 3D, that is either scaled or slid around on the screen, or tumbled, viewed in perspective, warped,

etc." (column 13, lines 7-10) and the positions of the graphical elements are conversed

into the virtual surface, creating the appearance of the graphical elements stick to the

real scene. Applicant amends the claim and argues that Heidmann does not teach

"said virtual surface is different from said actual surface depicted in said first video

image". However, such claimed feature would have been obvious in view of

Heidmann's projection of the locations of an actual surface into the virtual surface

because Heidmann virtual surface can be any 3D surface (e.g., floating a distance

above the actual surface, Heidmann, column 12, lines 43-50).

Claim 23 adds into claim 22 "the steps enhancing said video image based on

said one or more positions in said video image" which Heidmann teaches in column 8,

lines 44-46.

Claim 24 adds into claim 23 "said step of enhancing includes adding an

enhancement image to said video image and accounting for occlusions of said

enhancement image" which would have been obvious in view of Heidmann's

transparency scene (col. 6, line 64 to column 7, line 1) because the opacity and/or

transparency of the display scene implies the occlusions of the inserted object.

Claim 25 adds into claim 22 "said virtual surface is a sphere; and said one or

more locations are three dimensional locations on said sphere" which would have been

obvious to Heidmann's camera shot on a play field (column 12, line 35 to column 13,

line 33) because the 3D surface can be any type of 3D surface such as a sphere.

Claim 26 adds into claim 22 "said video image depicts an environment; said

video image is captured by a first camera; and said step of converting said one or more

locations is performed without knowing a position of said first camera in relation to said

environment" which would have been obvious to Heidmann's camera on the play field

because the accuracy of data is necessary for a comprehensive display of the scene

(Heidmann, column 4, lines 4-15, column 6, line 53 to column 7, line 27).

Claim 49 adds into claim 22 "3D locations and 2D positions" which Heidmann

teaches in the projected 2D video images and the virtual 3D surface (Heidmann, column

12, lines 43-50).

Claim 50 adds into claim 22 "3D actual and virtual surfaces and 2D video

images" which Heidmann teaches in the 3D environment and 3D virtual surface (column

12, lines 43-51) and 2D video signals of the actual surface.

Claim 51 is the same as claim 1 and adds "defining a virtual surface, wherein the

portion of said virtual surface is defined at a desired position in proximity to a portion of

an environment to be enhanced" which Heidmann teaches in column 12, lines 45-48.

Claim 52 adds into claim 51 "an enhancement image" which Heidmann teaches

in the animated object 9column 12, lines 43-59.

Claim 53 adds into claim 52 "said enhancement image appears to be located at said portion of said environment" which Heidmann teaches in figures 10A-10B.

Claims 54-58 claim the features of claims 45-50 which have been rejected above; therefore, they are rejected under the same reason.

As per claim 27, Heidmann teaches the claimed "one or more processor readable storage devices" for storing processor readable code, said processor readable code for programming one or more processors to perform a method comprising the steps of "determining one or more locations in relation to a virtual surface" (Heidmann, column 12, lines 35-59); and "converting said one or more locations in relation to said virtual surface to one or more positions in a video image" (Heidmann, column 12, line 60 to column 13, line 25). Applicant argues that Heidmann does not teach "conversion of positions identified in a first image to locations in relation to a virtual surface" which is not correct. Heidmann teaches "graphical elements may be drawn into a virtual surface which can be moved or animated in 2D or 3D, that is either scaled or slid around on the screen, or tumbled, viewed in perspective, warped, etc." (column 13, lines 7-10) and the positions of the graphical elements are conversed into the virtual surface, creating the appearance of the graphical elements stick to the real scene. Applicant amends the claim and argues that Heidmann does not teach "said virtual surface is of a different shape than said actual surface depicted in said first video image". However, such claimed feature would have been obvious in view of Heidmann's projection of the locations of an actual surface into the virtual surface because Heidmann virtual surface

can be any 3D surface (e.g., floating a distance above the actual surface, Heidmann, column 12, lines 43-50).

Claim 28 adds into claim 27 "the steps of: enhancing said video image based on said one or more positions in said video image" which Heidmann teaches in column 8, lines 44-46.

Claim 29 adds into claim 28 "said step of enhancing includes adding an enhancement image to said video image and accounting for occlusions of said enhancement image" which would have been obvious in view of Heidmann's transparency scene (col. 6, line 64 to column 7, line 1) because the opacity and/or transparency of the display scene implies the occlusions of the inserted object.

Claim 30 adds into claim 27 "said virtual surface is a sphere; and said one or more locations are three dimensional locations on said sphere" which would have been obvious to Heidmann's camera shot on a play field (column 12, line 35 to column 13, line 33) because the 3D surface can be any type of 3D surface such as a sphere.

Claim 31 adds into claim 27 "said video image depicts an environment; said video image is captured by a first camera; and said step of converting said one or more

locations is performed without knowing a position of said first camera in relation to said environment" which would have been obvious to Heidmann's camera on the play field because the accuracy of data is necessary for a comprehensive display of the scene (Heidmann, column 4, lines 4-15, column 6, line 53 to column 7, line 27).

Claim 32 adds into claim 27 "the steps of storing one or more positions in a first image, said step of determining includes converting said one or more positions to said one or more locations in relation to said virtual surface; and enhancing said video image based on said one or more positions in said video image" which Heidmann teaches in column 4, lines 61-64, column 6, lines 23-28.

Claim 33 adds into claim 32 "said first image is a video image; said first image depicts an environment having an actual surface; said video image depicts said actual surface; said step of storing includes storing an annotation of an image of said actual surface, said one or more positions represent said annotation, said annotation is at a first orientation in relation to said actual surface; and said step of enhancing includes adding said annotation to an image of said actual surface in said video image at said first orientation in relation to said actual surface" which would have been obvious to Heidmann's inserted objects and animation (column 3 line 56 to column 4, line 14) because one of those inserted objects can be an annotation.

Claim 34 adds into claim 32 "said step of storing includes storing a set of positions in an environment, said set of position bound a virtual advertisement; said step of converting said one or more positions includes transforming said set of positions in said environment to locations on said virtual surface; said step of converting said one or more locations includes determining where said set of positions are in said second image; and said step of enhancing includes adding said virtual advertisement into said second image where said set of positions are in said second image" which would have been obvious to Heidmann's inserted objects (column 4, lines 1-14) because the inserted object can be "a virtual advertisement".

As per claim 35, Heidmann teaches the claimed "apparatus for enhancing video" comprising "video modification hardware" (Heidmann, column 12, lines 35-59); and one or more processing devices in communication with said video modification hardware, said one or more processing devices perform a method comprising the steps of determining one or more locations in relation to a virtual surface, and converting said one or more locations in relation to said virtual surface to one or more positions in a video image (Heidmann, column 12, line 60 to column 13, line 25).

Claim 36 adds into claim 35 "the steps of enhancing said video image based on said one or more positions in said video image" which Heidmann teaches in column 8, lines 44-46.

Claim 37 adds into claim 35 "said step of enhancing includes adding an enhancement image to said video image and accounting for occlusions of said enhancement image" which would have been obvious in view of Heidmann's transparency scene (col. 6, line 64 to column 7, line 1) because the opacity and/or transparency of the display scene implies the occlusions of the inserted object.

Claim 38 adds into claim 35 "said virtual surface is a sphere; and said one or more locations are three dimensional locations on said sphere" which would have been obvious to Heidmann's camera shot on a play field (column 12, line 35 to column 13, line 33) because the 3D surface can be any type of 3D surface such as a sphere.

Claim 39 adds into claim 35 "said video image depicts an environment; said video image is captured by a first camera; and said step of converting said one or more locations is performed without knowing a position of said first camera in relation to said environment" which would have been obvious to Heidmann's camera on the play field because the accuracy of data is necessary for a comprehensive display of the scene (Heidmann, column 4, lines 4-15, column 6, line 53 to column 7, line 27).

Claim 40 adds into claim 35 "the steps of storing one or more positions in a first image, said step of determining includes converting said one or more positions to said one or more locations in relation to said virtual surface; and enhancing said video image

based on said one or more positions in said video image" which Heidmann teaches in

column 4, lines 61-64, column 6, lines 23-28.

Claim 41 adds into claim 40 "said first image is a video image; said first image

depicts an environment having an actual surface; said video image depicts said actual

surface; said step of storing includes storing an annotation on an image of said actual

surface in said first image, said one or more positions represent said annotation, said

annotation is at a first orientation in relation to said actual surface; and said step of

enhancing includes adding said annotation to an image of said actual surface in said

video image at said first orientation in relation to said actual surface" which would have

been obvious to Heidmann's inserted objects and animation (column 3 line 56 to column

4, line 14) because one of those inserted objects can be an annotation.

Claim 42 adds into claim 40 "storing a set of positions in an environment, said set

of position bound a virtual advertisement, said step of converting said one or more

positions includes transforming said set of positions in said environment to locations on

said virtual surface; said step of converting said one or more locations includes

determining where said set of positions are in said video image; and said step of

enhancing includes adding said virtual advertisement into said video image where said

set of positions are in said video image" which would have been obvious to Heidmann's

inserted objects (column 4, lines 1-14) because the inserted object can be "a virtual

advertisement".

Claim 43 adds into claim 35 "camera sensors; a gatherer computer, said gatherer computer receives camera sensor data from said camera sensors; a time code inserter, said time code inserter receives video and adds time codes to said video; and a touch screen, said one or more processing devices include a first processor and a second processor, said first processor receives camera sensor data from said gatherer and video from said time code inserter, said first processor also receives annotation data from said touch screen, said annotation data relates to a set of positions on said touch screen, said first processor converts said positions on said touch screen to said one or more locations in relation to said virtual surface, said first processor sends drawing information to said second processor, said drawing information is based on said one or more positions in said video image, said second processor directs said video modification hardware to add one or more annotation image to said video image, said annotation image corresponds to said annotation data, said step of converting said one or more locations is based on said camera sensor data" which would have been obvious to Heidmann's inserted objects and animation (column 3 line 56 to column 4, line 14) because one of those inserted objects can be an annotation.

Claim 44 adds into claim 35 "camera sensors, said camera sensors provide camera sensor data to said one or more processors, said step of converting said one or more locations is based on said camera sensor data" which would have been obvious to

Heidmann's camera data (column 4, lines 4-8; column 12, lines 43-57) because the

camera data can be collected through the sensors as claimed.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 48 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. It is unclear as how the disclosure teaches the

claimed "at least one of said one or more locations are not located on said virtual

surface".

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Phu K. Nguyen whose telephone number is (703)305 -

9796. The examiner can normally be reached on M-F 8:00-4:30.

The fax phone number for the organization where this application or proceeding

is assigned is 703-872-9306. Information regarding the status of an application may be

obtained from the Patent Application Information Retrieval (PAIR) system. Status

information for published applications may be obtained from either Private PAIR or

Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu K. Nguyen
March 7, 2004

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2400